WHAT IS CLAIMED IS:

1. In an environmentally hardened Ethernet network, an apparatus for conveying data signals comprising:

a cable for carrying data in a first section and power in a second section parallel to the first section; and

end connectors for the cable terminating both the first section and the second section, the end connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, wherein each network equipment is coupled to receive data and power via said end connectors.

2. The apparatus according to claim 1 wherein said power section includes wiring of a gauge to support current sufficient to supply all network equipment from a central source to each end user in a cabling run.

3. The apparatus according to claim 2 wherein said data section of said cable further includes UTP wiring pairs.

4. The apparatus according to claim 3 wherein said data section of said cable further includes protective gel sheathing of said UTP pairs.

5. The apparatus according to claim 4 further including a foil sheathing around the first section and said second section and a drain wire juxtaposed to said foil sheathing disposed parallel to said first section and said second section.

6. The apparatus according to claim 5 further including a suspension line bound to said cable for stress relief of said cable.

7. The apparatus according to claim 4 further including a hollow conduit that permits installation of optical fiber before or after installation of the cable; and a sheath enclosing said conduit together with said first section and said second section.

8. The apparatus according to claim 7 wherein said hollow conduit is of a pliant material having walls of sufficient rigidity to be self supporting without collapsing.

9. The apparatus according to claim 3 further including:

high performance physical layer transceivers at each network equipment, each being clocked at a substantially lower rate than design specification operational distance between network elements.

10. The apparatus according to claim 9 wherein said transceivers are configured to operate over said UTP wiring pairs in full duplex switched packet transmission mode between network elements in order to extend data rate capacity.

11. The apparatus according to claim 10 wherein a plurality of UTP pairs support simultaneous transmission in a common direction.

12. The apparatus according to claim 3 further including:

high performance physical layer transceivers at each network equipment wherein said transceivers are configured to operate over said UTP wiring pairs in full duplex switched packet transmission mode between network elements in order to extend operational distance between network elements.

13. The apparatus according to claim 1 wherein the end connectors have:

gold plated pins and sockets that make contact with each other over the entire circumference and length of the pins;

plugs and receptacles that interlock with protective housings that shield contact areas from dirt, moisture and EMI and further have secured mechanical clasping mechanisms providing strain relief from torque and stress.

14. The apparatus according to claim 13 wherein the end connectors contain within the contact areas a protective contact dielectric gel.

15. A method for providing Ethernet signals in an environmentally harsh environment comprising:

carrying data in a first section and power in a second section parallel to the first section of an environmentally hardened cable; and

carrying said data of said cables through end connectors terminating both the first section and the second section, the end connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, wherein each network equipment is coupled to receive data and power via said end connectors.

16. The method according to claim 15 further including

operating high performance physical layer transceivers at a clock rate substantially less than design clock speeds over UTP wiring pairs in full duplex switched packet transmission mode between network elements in order to extend operational distance between network elements.